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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,059	12/02/2003	Paul-Andre Lavoie	1061958	2938

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EXAMINER	
WOLLSCHLAGER, JEFFREY MICHAEL	
ART UNIT	PAPER NUMBER
1791	

NOTIFICATION DATE	DELIVERY MODE
11/07/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipmtl@OSLER.COM

Office Action Summary	Application No.	Applicant(s)	
	10/725,059	LAVOIE ET AL.	
	Examiner	Art Unit	
	JEFFREY WOLLSCHLAGER	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 4-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 10, 2008 has been entered.

Response to Amendment

Applicant's amendment to the claims filed September 10, 2008 has been entered. Claims 1, 4, 7 and 10 are currently amended. Claims 1 and 4-15 are pending and under examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. (US 6,503,432) in view of Fukumura et al. (US 5,674,556) and Kim et al. (US 6,403,266).

Regarding claim 1, Barton et al. teach a method for producing a multilayer article useful in lithium ion batteries comprising mixing a polymer with electrochemically active material, lithium salt and electronic conductive material in a first mixing chamber (22) to form a first electrode slurry (col. 9, lines 40-col. 10, line 60); mixing a polymer with lithium salt to from a first separator/electrolyte slurry (12) (col. 7, line 38-col. 8, line 6); and extruding the slurries through a die to form a multilayered article onto a current collector (40) (col. 12, lines 16-19 and 36-58). Barton et al. also teach it is possible to extrude the multilayered structure on both sides of the current collector (col. 13, lines 16-27). While the examiner submits it is implied, Barton et al. do not expressly teach the moving current collector passes in between the recited first and third slot of the die opening to form electrolyte and electrode layers on both sides of the current collector. However, Fukumura et al. teach a method of applying electrode material on either side of a support through a die wherein the support passes between the die opening slots (Figure 7A and 7B) and Kim et al. teach electrolyte layers and electrode layers on both sides of a current collector (Figure 3)

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have combined the teaching of Barton et al. and Fukumura et al. and to have applied the additional layers on the other side of Barton et al.'s current collector (Barton: col. 13, lines 16-27), by passing the current collector between the die opening slots, as suggested by Fukumura et al., since Fukumura et al. suggest such a method is

effective at coating both sides of a support/current collector. Additionally, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have formed an electrolyte layer and an electrode layer on both sides of the current collector, as suggested by Kim et al., since Kim et al. suggest such a structure is suitable for forming a larger capacity battery.

As to claims 4, 10, and 11, Barton et al. teach a multi-channeled/multi-slotted die and suggest duplicating the arrangement on the other side of the current collector (col. 1, lines 46-62; col. 2, lines 10-30; col. 6, lines 28-52; col. 12, lines 16-46).

Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. (US 6,503,432) in view of Fukumura et al. (US 5,674,556) and Kim et al. (US 6,403,266), as applied to claims 1, 4, 10 and 11 above, and further in view of either of Kobayashi et al. (US 6,676,865) or Schock (US 3,544,669).

As to claims 5 and 6, the combination teaches the method set forth above. Barton et al. do not expressly teach the extruding is through a multiple slot die having four flow channels as claimed. However, each of Kobayashi et al. (Figure 3) and Schock (Figure 2) teach methods of coextrusion wherein a centrally coated support traveling between the slots of the die is coated on both sides.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Barton et al. and to have employed a multiple slot die having four flow channels and four slot openings as suggested by either of Kobayashi et al. or Schock, since Kobayashi et al. and Schock suggest such a configuration is effective for coextruding material on either side of a support (see MPEP 2144.06-2144.07).

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. (US 6,503,432) in view of Fukumura et al. (US 5,674,556) and Kim et al. (US 6,403,266), as applied to claims 1, 4, 10 and 11 above, and further in view of Brouwer et al. (US 4,260,556) and Morris (US 5,316,556).

As to claims 7-9, the combination teaches the method set forth above. While Barton et al. combined with Fukumura et al. and Kim et al, suggest extruding the electrodes and electrolytes on both sides of the current collector, Barton et al. do not teach extruding the first and second electrode sheets on the moving current collector followed by extruding the first and second electrolyte layers on the electrodes as claimed. However, Morris teaches a method of subsequently extruding the electrode layer and the electrolyte layer (Figure 5) and Brouwer et al. teach subsequent coextrusion of layers on a support is known in the extrusion arts (Figure 1).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have modified the method of Barton et al. and to have performed a subsequent co-extrusion process as suggested by Morris and Brouwer et al., since Morris and Brouwer et al. suggest subsequent co-extrusion processes are an equivalent and alternative method known in the art for co-extruding multiple layers on a support.

Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton et al. (US 6,503,432) in view of Fukumura et al. (US 5,674,556) and Kim et al. (US 6,403,266), as applied to claims 1, 4, 10 and 11 above, and further in view of applicant's admitted prior art (see US 2004/0159964).

As to claims 12-15, the combination teaches the method as set forth above. Barton et al. do not teach controlling the layer thicknesses using various measuring devices (e.g. optical, ultrasonic, etc.). However, applicant's admission teaches that controlling the layer thicknesses using various measuring devices is known to those skilled in the art to ensure strict tolerances (paragraph [0028]).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to have used any of the various measuring devices as taught by applicant's admission in the process of Barton et al et al. for the purposes of achieving the desired layer thicknesses within a specific tolerance.

Response to Arguments

Applicant's arguments filed September 10, 2008 have been fully considered, but are moot in view of the new grounds of rejection necessitated by the amendment to the claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY WOLLSCHLAGER whose telephone number is (571)272-8937. The examiner can normally be reached on Monday - Thursday 6:45 - 4:15, alternating Fridays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. W./
Examiner, Art Unit 1791

November 5, 2008

/Monica A Huson/

Primary Examiner, Art Unit 1791